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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,716	02/27/2002	Bo Soon Chang	CYPR-PM01010	1733

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EXAMINER

STEVENSON, ANDRE C

ART UNIT	PAPER NUMBER
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2812

DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Am

Office Action Summary	Application N . 10/085,716	Applicant(s) CHANG ET AL.	
	Examiner Andre' C. Stevenson	Art Unit 2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-14 is/are allowed.
- 6) ☒ Claim(s) 1,5,15,16,19 and 21-25 is/are rejected.
- 7) ☒ Claim(s) 2-4,6,7,17,18 and 20 is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All * b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) ____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- | | |
|---|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 20) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 15, 16, 19, 21, 22, 23, 24 & 25 rejected under 35 U.S.C. 102(b) as being unpatentable by Davis et al (U.S. Pat. No.6173750 B1).

Davis et al (U.S. Pat. No.6173750 B1), **Claim #1**, a method of performing back-end manufacturing of an integrated circuit (IC) device comprising: processing a die-strip through a front-of-line assembly portion which comprises a plurality of sub-stations operating on an in-line basis (**Column 1, lines 22 through 29, lines 63 through 65**); automatically providing said die-strip to an end-of-line assembly portion; processing said die-strip by said end-of-line assembly portion which comprises a plurality of sub-stations operating on an in-line basis (**Column 3, lines 37 through 56, lines 63 through 67, Column 4, lines 1 through 8**); automatically providing said die-strip to a test assembly portion; testing said die-strip using said test assembly portion; automatically providing said die-strip to a finish assembly portion; and processing said die-strip by said finish assembly portion which comprises a plurality of

sub-stations operating on an in-line basis, (Column 6, lines 11 through 30, Column 7, lines 60 through 67, Column 8, lines 1 through 14, lines 51 through 67).

Furthermore, **Claim # 5**, a method as recited in Claim 1 wherein said processing said die-strip by said finish assembly portion comprises: marking die-strip components using an in-line marking sub-station; performing final visual inspection of said die-strip components using an in-line automated final visual inspection sub-station; and processing said die-strip components by an in-line tape and reel sub-station, is taught by Davis et al (U.S. Pat. No.6173750 B1) (Abstract, column 2, lines 19 through 26).

With respect to **Claim #15**, a back-end IC assembly method comprising: processing a die-strip through a front-of-line portion of an assembly line, wherein said front-of-line assembly portion comprises a plurality of integrated sub stations which each process said die-strip in an in-line fashion; processing said die-strip through an end-of-line portion of said assembly line, wherein said end-of-line assembly portion comprises a plurality of integrated sub stations which each process said die-strip in an in-line fashion; and using in-line processes, performing test and finish assembly on said die-strip to produce a plurality of taped and reeled IC devices from said die-strip, is taught by Davis et al (U.S. Pat. No.6173750 B1) (Column 1, lines 22 through 29, lines 63 through 65, Column 3, lines 37 through 56, lines 63 through 67, Column 4, lines 1

through 8, Column 6, lines 11 through 30, Column 7, lines 60 through 67, Column 8, lines 1 through 14, lines 51 through 67).

Considering now **Claim #16**, a method as described in Claim 15 wherein said front-of-line portion and said end-of-line portion are integrated together and further comprising said front-of line portion automatically providing said end-of-line portion with said die-strip in an in -line fashion, is taught by Davis et al (U.S. Pat. No.6173750 B1) (Column 1, lines 22 through 29, lines 63 through 65, Column 3, lines 37 through 56, lines 63 through 67, Column 4, lines 1 through 8, Column 6, lines 11 through 30, Column 7, lines 60 through 67, Column 8, lines 1 through 14, lines 51 through 67).

Furthermore, **Claim # 19**, a method as described in Claim 16 wherein said processing said die-strip through said end-of-line portion comprises: sawing said die-strip using an in-line sawing sub-station; and sorting said die-strip using an in-line sorting sub-station, is taught by Davis et al (U.S. Pat. No.6173750 B1) (column 2, lines 4 through 18, column 6, lines 31 through 43).

With respect to **Claim #21**, a method as described in Claim 16 wherein said performing finish assembly comprises: marking components of said die-strip using an in-line marking sub-station; and processing said components of said die-strip using an in-line tape and reel sub-station, is taught by Davis et al (U.S. Pat. No.6173750 B1)

(column 7, lines 60 through 67, column 8, lines 1 through 14, column 1, lines 21 through 28).

Considering now **Claim #22**, a method as recited in Claim 21 wherein said performing finish assembly further comprises performing an automated final visual inspection using an in-line visual inspection sub-station, is taught by Davis et al (U.S. Pat. No.6173750 B1) (Abstract, column 2, lines 19 through 26).

Furthermore, **Claim # 23**, a method as recited in Claim 22 wherein said performing finish assembly further comprises employing a camera system for automated die-strip inspection and quality assurance, is taught by Davis et al (U.S. Pat. No.6173750 B1) (Abstract, column 2, lines 19 through 26).

With respect to **Claim #24**, a method as described in Claim 16 wherein said performing test uses an in-line test portion of said assembly line and wherein said in-line test portion and said end-of-line portion are integrated together and further comprising said end-of-line portion automatically providing said test portion with said die-strip in an in-line fashion, is taught by Davis et al (U.S. Pat. No.6173750 B1) (column 7, lines 60 through 67, column 8, lines 1 through 14).

Considering now **Claim #25**, a method as described in Claim 23 wherein said performing finish assembly uses an in-line finish portion of said assembly line and wherein said in-line finish portion and said test portion are integrated together and further comprising said test portion automatically providing said finish portion with said die-strip in an in line fashion, is taught by Davis et al (U.S. Pat. No.6173750 B1) (column 7, lines 60 through 67, column 8, lines 1 through 14).

Objected Claims

Claims #2, 3, 4, 6, 7, 17, 18 & 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim #2

Cleaning said die-strip using a second in-line plasma sub-station.

Claim #4

Using an in-line ball attachment sub-station.

Claim #17

Cleaning said die-strip using an in-line plasma sub-station.

Claim #18

Cleaning said die-strip using a second in-line plasma sub-station.

Claim #20

Performing post mold curing using an in-line post mold cure sub-station.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: The prior art fails to teach providing an in-line post mold cure sub-station; and an in--line ball attachment sub station.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claims 8 through 14 are allowed.

Claim #8

- An in-line post mold cure sub-station; and an in--line ball attachment sub station.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre' Stevenson whose telephone number is (703) 308 6227. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling, can be reached on (703) 308 3325. The fax phone number for the organization where this application or proceeding is assigned is (703) 308 7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

Andre' Stevenson

Art Unit 2812

07/24/01


John F. Niebling
Supervisory Patent Examiner
Technology Center 2800